SHARP

PORTABLE MINIDISC RECORDER

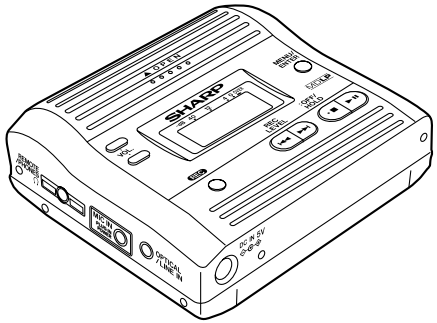
MODEL

MD-MT280E

OPERATION MANUAL

If you require any advice or assistance regarding your Sharp product, please visit our web-site www.sharp.co.uk/customersupport.
Customers without Internet access may telephone 08705 274277 during office hours (or (01) 676 0648 if telephoning from Ireland).

Thank you for purchasing this SHARP product.
For the best performance, read this manual carefully.
It will guide you in operating your SHARP product.

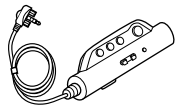


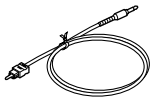
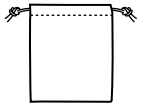
MDLP

MiniDisc

TINSE0516AWZZ
03A R AO ① E

Accessories

 Remote Control x 1	Earphones x 1	AC Adaptor (RADPA8058AWZZ) x 1

 Connection Cable (for digital recording) x 1	Connection Cable (for analogue recording) x 1	Connection Cable (for PC analogue recording) x 1	 Carrying Bag x 1

Notes:
- Parts and equipment mentioned in this operation manual other than those detailed above are not included.
- The AC adaptor may be different from the one in the drawing.

Optional Accessories

- Car adaptor (AD-CA20X)
- Cassette adaptor (AD-CT14)
- Connection cable (for digital recording) (AD-M2DC)

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Special Notes

NOTES FOR USERS IN THE U.K. AND IRELAND

SERVICE INFORMATION

In the unlikely event of your equipment requiring repair, please use the supplied postage paid label to send your unit to the Sharp repair centre or contact the dealer or supplier from whom it was purchased. Where this is not possible, please visit our web-site www.sharp.co.uk/customersupport.
Customers without internet access may telephone 08705 274277 during office hours (or (01) 676 0648 if telephoning from Ireland).

Please note; all calls will be charged at local rate.

Certain replacement parts and accessories may be obtained from our main parts distributor.

WILLOW VALE ELECTRONICS LTD.
0121 766 5414

In the unlikely event of this equipment requiring repair during the guarantee period, you will need to provide proof of the date of purchase to the repairing company. Please keep your invoice or receipt, which is supplied at the time of purchase.

■ Warnings

- The supplied AC adaptor contains no user serviceable parts. Never remove covers unless qualified to do so. It contains dangerous voltages, always remove the mains plug from the main outlet socket before any service operation or when not in use for a long period.
- The AC adaptor supplied with the MD-MT280E must not be used with other equipment.
- To prevent fire or shock hazard, do not expose this appliance to dripping or splashing liquids. No objects filled with liquids, such as vases, shall be placed on the apparatus.
- Never use an AC adaptor other than the one specified. Otherwise, problems or serious hazards may be created.

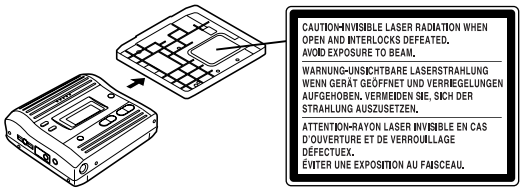
■ Caution

- When recording important selections, make a preliminary test to ensure that the desired material is properly recorded.
- SHARP is not liable for damage or loss of your recording arising from malfunction of this unit.

- At full volume, prolonged listening to a personal stereo may damage the user's hearing. This model complies with the law if used with the correct earphones (model number RPHOH0011AWZZ). If the earphones are damaged in any way, please order using the model number given above.
- This product is classified as a CLASS 1 LASER PRODUCT.
- Use the Portable MiniDisc Recorder only in accordance with the instructions given in this manual and do not attempt to interfere with the interlock switch or make any other adjustment as this may result in exposure to hazardous radiation.

Laser Diode Properties
- Material: GaAlAs
- Wavelength: 785 nm
- Pulse time:

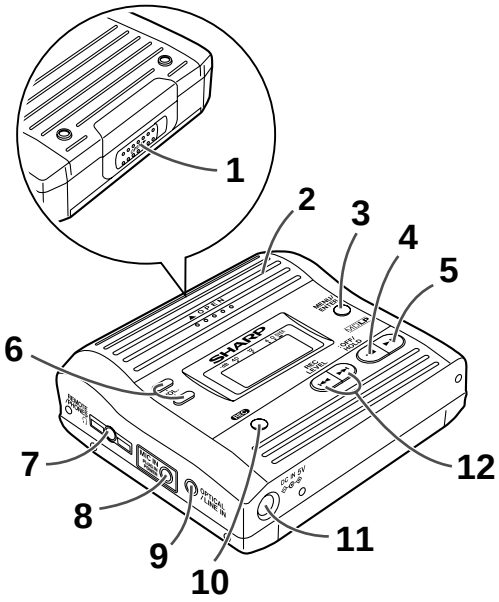
Read mode: 0.8 mW Continuous
Write mode: max 10 mW 0.5S
min cycle 1.5S
Repetition


CAUTION-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
WARNUNG-UNSICHTBARE LASERSTRAHLUNG WENN GERÄT GEÖFFNET UND VERRIEGELUNGEN AUFGEHOBEN. VERMEIDEN SIE, SICH DER STRAHLUNG AUSZUSETZEN.
ATTENTION-RAYON LASER INVISIBLE EN CAS D'OUVERTURE ET DE VERROUILLAGE DÉFECTUEX. ÉVITER UNE EXPOSITION AU FAISCEAU.

■ Notes

- Recording and playback of any material may require consent, which SHARP is unable to give. Please refer particularly to the provisions of the Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1958, the Performers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.
- This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.
- US and foreign patents licensed from Dolby Laboratories.
- The letters in brackets contained in the model number indicate the colour of the product only. Operation and specifications are unaffected.

Names of Controls and Indicators



■ Main unit

	Reference page
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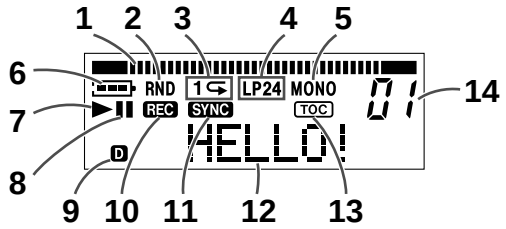
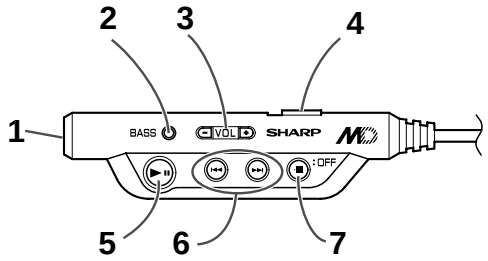
2. Battery Cover	10
3. Menu/Enter Button	17, 21, 34
4. Stop/Power Off/Hold Button	14, 17, 18
5. Play/Pause Button	17, 18, 25
6. Volume/Cursor Buttons	18, 35
7. Remote Control/Earphones/ Line Output Socket	18, 41
8. Microphone Input Socket	28
9. Optical/Line Input Socket	12
10. Record/Track Mark Button	16, 24, 26
11. 5 V DC Input Socket	9, 41
12. Fast Forward/Fast Reverse/ Recording Level/Menu Select/ Name Select Buttons	16, 20, 34



■ Display panel

1. Level Meter
2. Random Indicator
3. Repeat Indicator
4. Long-Play/Recording Mode Indicator
5. Monaural Mode Indicator
6. Battery Indicator
7. Play Indicator
8. Pause Indicator
9. Disc Name Indicator
10. Record Indicator
11. Synchro Recording Indicator
12. Character/Time Information Indicator
13. TOC Indicator
14. Track Number Indicator



■ Remote control unit

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1. Earphones Socket 18, 41
2. Bass/Delete/Track Mark Button 19, 26, 35
3. Volume/Cursor Buttons 18, 35
4. Hold Switch 14
5. Play/Pause Button 17, 18, 25
6. Fast Forward/Fast Reverse/ Recording Level/Menu Select/ Name Select Buttons 16, 20, 34
7. Stop/Power Off Button 17, 18

Precautions

■ Important

- Do not wear your earphones when you are crossing streets or near traffic.
- Do not use your earphones whilst driving a motor vehicle, it may create a traffic hazard and may be illegal. Remember to obey all of the safety rules in your area.

- Do not play the unit at a high volume. Hearing experts advise against extended listening at high volume levels.
- If you experience ringing in your ears, reduce the volume or discontinue use.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- Attention should be drawn to the environmental aspects of battery disposal.
- The apparatus is designed for use in moderate climate.
- This portable MD should only be used within the range of 0°C - 40°C (32°F - 104°F).

To avoid accidental electric shock or other possible problems, observe the precautions listed below.

- Do not disassemble or modify the unit.
- Do not drop or subject the unit to shock.
- Do not use the unit near open flames.
- Do not spill liquid on the unit.
- Do not use an external power supply, other than the 5V DC supplied with this unit, as it may damage it.
- SHARP is not responsible for damage due to improper use. Refer all servicing to a SHARP authorised service centre.

■ Storing the unit

Avoid using or leaving the unit in the following places.

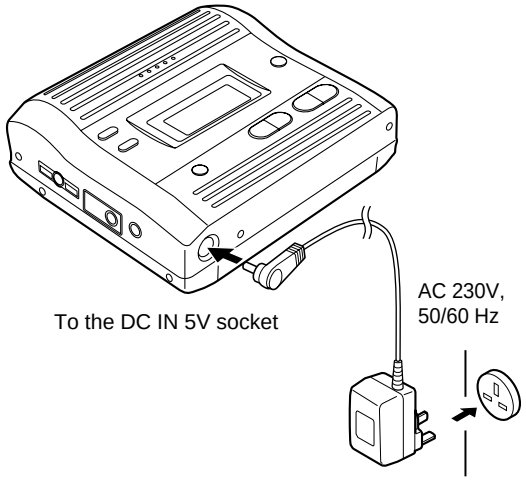
- Places exposed to direct sunlight for many hours (especially in cars with the doors and windows closed) or near heaters. (The cabinet may deform, change colour or the unit may malfunction.)
- Places exposed to excessive dust.
- Places exposed to water.
- Places where temperatures are excessively high or low.
- Places (bathrooms) where the humidity is extremely high.
- Places with strong magnetic fields such as TVs or loudspeakers.
- Places exposed to vibration.
- Places where sand can easily enter the inside of the unit (beaches etc.).
- If the unit is used near radio tuners or TVs, noise and/or picture interference may result. If you experience these problems, move the unit away from such devices.

It is not recommended to put the portable MD into a rear pocket, as this may damage the product when sitting.

Using this unit near mobile phones may cause noise pickup. If it occurs, move it away from them.

Using with the AC Adaptor

Plug the AC adaptor into the wall socket, and then insert the plug on the other end into the DC IN 5V socket.



Caution:

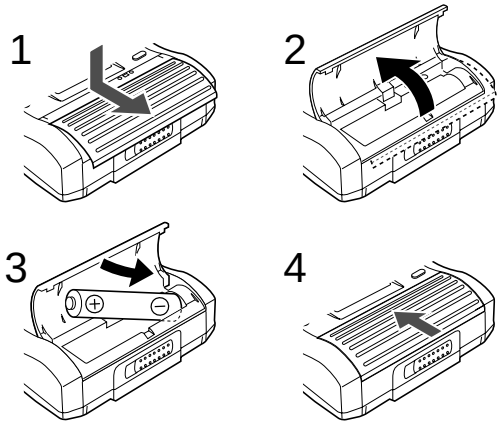
- Insert the plugs firmly.
- When the unit is not in use for extended periods, remove the AC adaptor from the wall socket.

Notes:

- If power failure occurs whilst playing a disc using the AC adaptor, disconnect it from the wall socket. Otherwise, playback may start automatically when electricity resumes.
- This unit can be used with the AC adaptor when an alkaline battery is in the unit.

Using with the Alkaline Battery

Use one commercially available alkaline battery (LR6, "AA" size).



1 Push and slide the battery cover.

2 Open the battery cover.

3 Insert an alkaline battery according to the direction indicated in the battery compartment.

When inserting or removing the battery, push it towards the ⊖ battery terminal.

4 Close the battery cover.

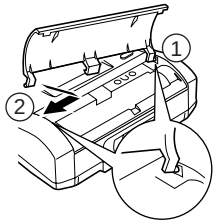
Caution:

- Do not replace the battery during operation.
- **Do not use a rechargeable battery (nickel-cadmium battery etc.).**
- Remove the battery if the unit will not be used for long periods of time. This will prevent potential damage due to battery leakage.
- Installing the battery incorrectly may cause the unit to malfunction.

Notes:

- For information about the battery life, see "Specifications" on page 49.

- When the battery cover comes off, attach the cover back as shown below.



Inserting a MiniDisc

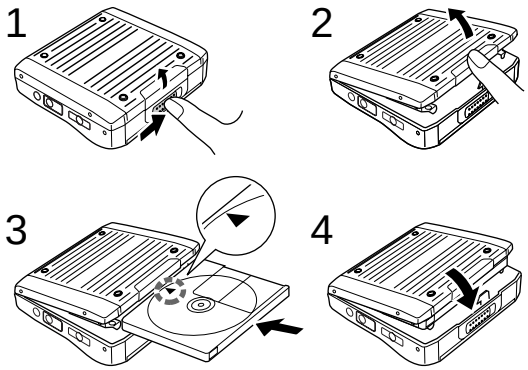
1 Slide the OPEN lever to release the compartment door.

2 Lift up the compartment door.

3 Insert a MiniDisc.

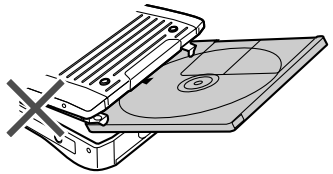
Insert according to the direction arrow.

4 Close the compartment door.

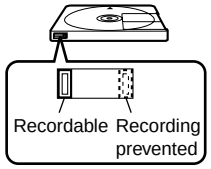


Notes:

- Do not place the MiniDisc under the holder.

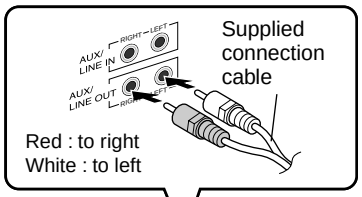


- If any resistance is felt, do not force the MiniDisc into the unit, as it may cause damage to the unit. If resistance is felt, remove the MiniDisc and reload it.
- The lid cannot be opened if "TOC" is displayed; refer to the instruction on page 15.
- When you record on a MiniDisc, check that the erase prevention tab is set to the "Recordable" position.



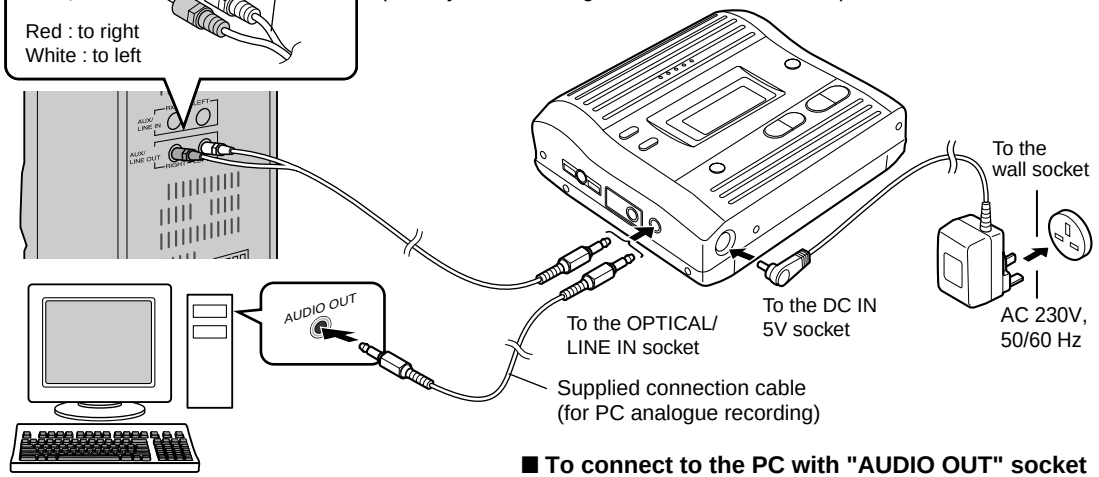
Connections

You can record your favourite CDs or tapes to MD.
When recording, it is recommended to use the AC adaptor and also install the battery. Should the power failure occur, the power source would be automatically switched to the battery.



■ To connect to a stereo system with "LINE OUT" or "AUDIO OUT" sockets (analogue connection)

If the audio system has only one pair of sockets, they are usually for input only and recording via this connection is not possible.

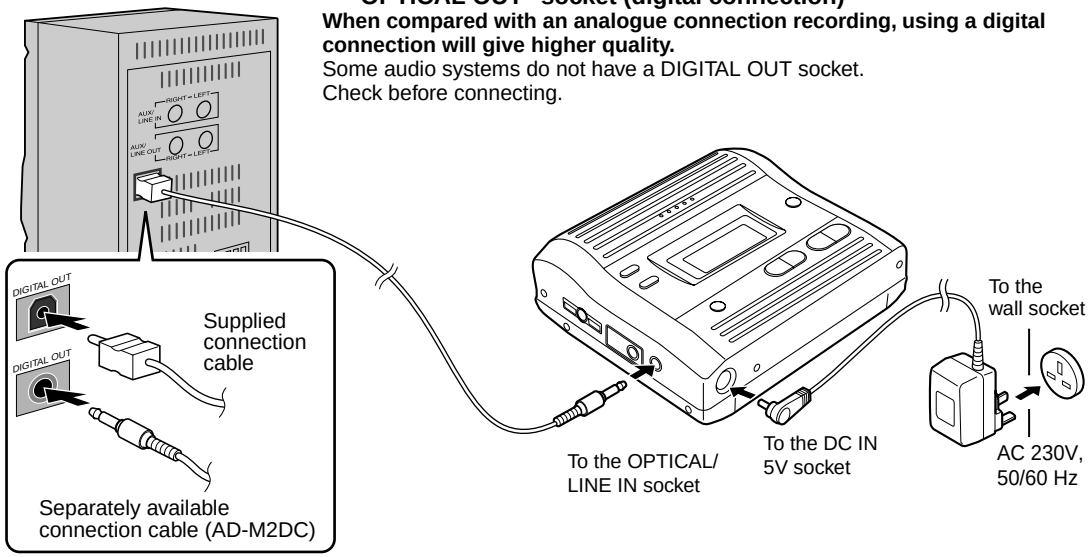


■ To connect to the PC with "AUDIO OUT" socket (analogue connection)

■ To connect to a stereo system with a "DIGITAL OUT" or "OPTICAL OUT" socket (digital connection)

When compared with an analogue connection recording, using a digital connection will give higher quality.

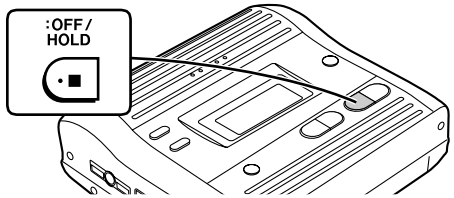
Some audio systems do not have a DIGITAL OUT socket.
Check before connecting.



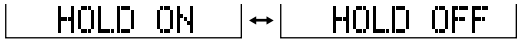
Hold Function

To prevent accidental operation, the unit can be locked in its present condition using the Hold function. When in Hold, no buttons are active.

Main unit



Press the HOLD button for 2 seconds or more.

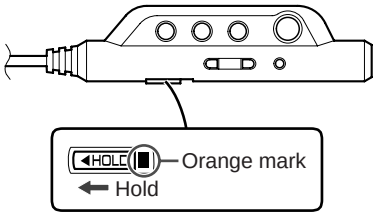


Hold Release

If the battery is inserted or the AC adaptor is connected, you can set this function even when the power is turned off.

To cancel the hold mode
Press and hold down the HOLD button for 2 seconds or more whilst the unit is in the hold mode.
"HOLD OFF" will be shown.

Remote control unit



Move the HOLD switch to the safety position (direction indicated by the arrow).

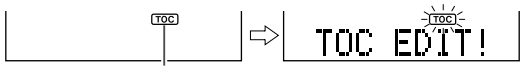
To cancel the hold mode
Move the HOLD switch away from the safety position (the opposite direction of the arrow).

If the hold function is active whilst the power is turned off, the power cannot be turned on by mistake and the battery will not be drained.

Before Recording

■ About the TOC

After any recording or editing function, "TOC" (Table Of Contents) is displayed. To finalise the recording or editing function, turn the power off. During this process, "TOC" will flash and "TOC EDIT!" will be displayed. During any recording or editing function, the MiniDisc unit lid is locked, and the MiniDisc cannot be removed until the process is finalised.



TOC display

Warning:

If the power is removed (Battery/AC adaptor) whilst "TOC" is displayed, the MiniDisc unit lid will remain locked until the battery/main power is restored and the unit is turned on. Your new recordings or edited changes will be lost and your MiniDisc may become unusable.

Caution:

Whilst "TOC" or "TOC EDIT!" is displayed, follow the instructions below.

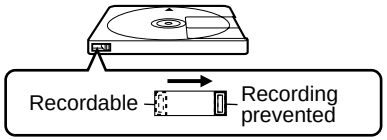
- Do not jerk or bump the unit.
- Do not unplug the AC adaptor.
- Do not remove the battery.
- Do not subject the unit to shock.

Otherwise, tracks may not be recorded properly.

■ To prevent recorded MiniDiscs from being erased accidentally

Slide the accidental erase prevention tab, located on the side of the MiniDisc, in the direction indicated by the arrow.

The MiniDisc will then be protected against accidental erasure.



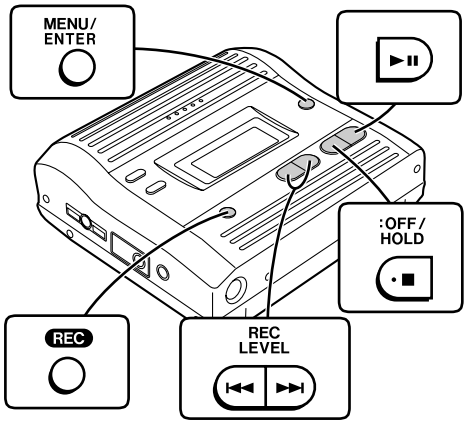
To add a recording to such a MiniDisc, slide the accidental erase prevention tab back to its original position.

■ Helpful tip when attaching a label

When attaching a label to a MiniDisc cartridge, be sure to note the following. If the label is not attached properly, the MiniDisc may jam inside the unit and you may not be able to remove it.

- If the label peels off or partially lifts away, replace it with a new one.
- Do not put a new label on top of an existing one.
- Attach the label only in the specified location.

Recording



Before recording

Cancel the hold mode.

The portable MD does not work whilst in the hold mode. As for the details, see page 14.

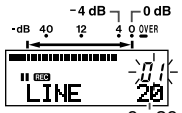
1 Press the REC button.

2 Begin playback on the stereo system connected to this portable MD.

3 Press the REC LEVEL I◄◄ or ►►I button to adjust the recording level.

Analogue recording (connecting with analogue cable)

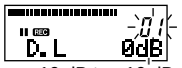
Adjust the recording level so that the maximum sound volume from the source makes the reading swing somewhere between -4 dB and 0 dB.



0 - 30

Digital recording (connecting with digital cable)

You can adjust the level in 1 dB increments between + 10 dB and - 10 dB.



+ 10 dB to - 10 dB

Once you adjust the recording level, the setting is retained even after the recording stops. (For cancellation instructions for the digital recording level, see page 31.)

The sound from the earphones does not change even if the digital recording level is adjusted.

4 Press the PAUSE button on the stereo system to enter the playback pause mode.

Here, you can search for the track to be recorded.

5 **Press the MENU/ENTER button.**

6 **Press the ⏮ or ⏭ button repeatedly to select "REC MODE".**

7 **Press the MENU/ENTER button.**

8 **Press the ⏮ or ⏭ button repeatedly to select the recording mode (page 22).**

SP	(Stereo recording)
LP2	(2 times long recording)
LP4	(4 times long recording)
MONO	(Monaural recording)

9 **Press the MENU/ENTER button.**

The mode will be set automatically after 7 seconds even if the MENU/ENTER button is not pressed.

10 **Press the ⏯ button to start the MiniDisc unit recording.**

11 **Begin playback on the stereo system, the output will be recorded.**

Notes:
- Complete the operation within 7 seconds whilst selecting the menus.
- Changing the volume level whilst recording does not affect the recording.
- You cannot adjust the bass level whilst recording.

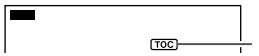
To interrupt recording

Press the ⏯ button.
- To resume recording, press the ⏯ button again.
- The track number will be increased by one each time the recording is interrupted.

To stop recording

Press the ■:OFF/HOLD button.

Notes:
- Whilst "TOC" is displayed, the MiniDisc recorded contents are not yet updated.
- It is not possible to remove the MiniDisc whilst "TOC" is displayed, to prevent the new recording from being lost.

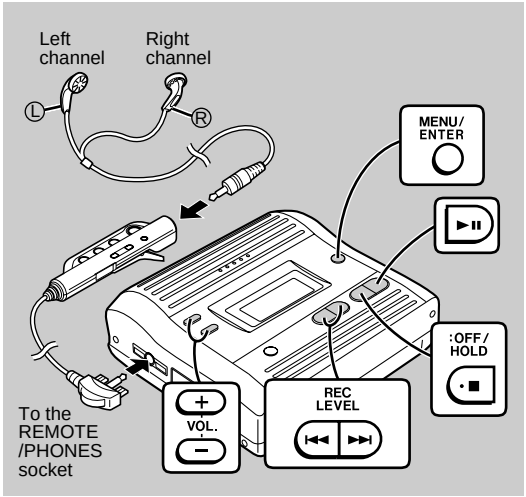


TOC display

To update the recorded contents of the MiniDisc

Press the ■:OFF/HOLD button whilst in the stop mode.
The power turns off after recorded contents have been updated on the MiniDisc.

Playback



1 **Insert the earphones plug firmly into the earphones socket on the remote control unit.**

2 **Plug the remote control into the REMOTE/ PHONES socket on the unit.**

3 **Insert a MiniDisc (page 11).**

4 **Press the ▶II button.**

Playback starts automatically with a playback only MiniDisc or a MiniDisc which is protected against accidental erasure (Auto-play function).

To interrupt playback

Press the ▶II button.
To resume playback, press the ▶II button again.

To stop playback

Press the ■:OFF/HOLD button.
The power will turn off automatically after 2 minutes if the unit is left in the stop mode.

To turn off the power

Press the ■:OFF/HOLD button whilst in the stop mode.

Notes:

- Reduce the volume before starting to play. MiniDiscs, compared to ordinary cassette tapes, have very little noise. If the volume is adjusted according to your usual expectations of noise, high volume may damage your hearing.
- The sound escaping from your earphones may annoy people around you. In particularly crowded places (such as on trains or buses), reduce the volume.

■ Volume control

Press the VOL + button to increase the volume and the VOL - button to decrease the volume.

Volume (0 - 30)

■ Bass control

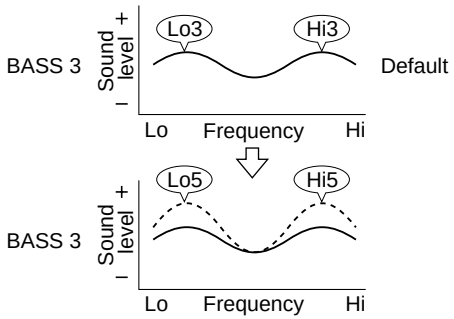
Each time the BASS button on the remote control is pressed, the bass response will be switched as follows.

BASS 1	Emphasised slightly.
BASS 2	Emphasised more.
BASS 3	Emphasised fully.
BASS OFF	Cancelled. (Default setting)

■ To customise low and high levels

You can set 3 types of bass settings (BASS 1 - BASS 3) by adjusting low (Lo) and high (Hi) boost for each setting.

Emphasising low (Lo) and high (Hi) sound of BASS 3.



1 **During playback, press the MENU/ENTER button.**

2 **Press the ⏮ or ⏭ button repeatedly to select "SOUND ADJ" and then press the MENU/ENTER button.**

3 **Press the ⏮ or ⏭ button repeatedly to select bass setting, and the VOL + or VOL - button to select "B3".**

4 **After selecting "Lo" or "Hi" with the ⏮ or ⏭ button, press the VOL + or VOL - button to adjust the low or high sound setting.**

5 **Press the MENU/ENTER button.**

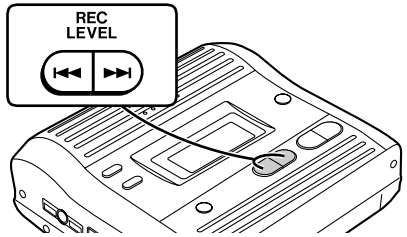
Repeat steps 1 - 5 to change the other bass setting.

Notes:

- If you set the volume to 23 or more, the bass boost will be adjusted automatically.
- When you make the setting of "To customise low and high levels" with the volume level set to 23 or more, the volume level will be reduced to 22 automatically.

Advanced Playback

■ To locate the desired portion



For audible fast forward:
Press and hold down the ▶▶I button during playback.
For audible fast reverse:
Press and hold down the I◀◀ button during playback.

- Normal playback will resume when the I◀◀ or ▶▶I button is released.
- When the end of the last track is reached during fast forward, the unit will enter the pause mode. When the beginning of the first track is reached during fast reverse, the unit will enter the playback mode.

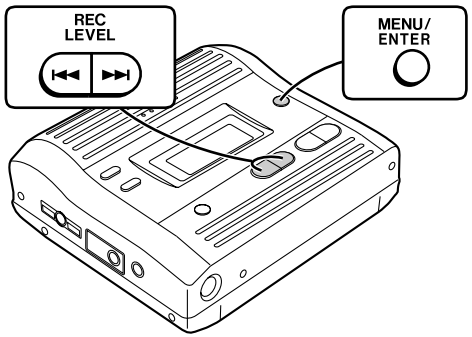
■ To locate the beginning of a track

To move to the beginning of the next track:
Press the ▶▶I button during playback.
To restart the track being played:
Press the I◀◀ button during playback.

To locate the next track:
Press the ▶▶I button whilst the unit is stopped.
To locate the previous track:
Press the I◀◀ button whilst the unit is stopped.

- To skip a number of tracks at one time, press the I◀◀ or ▶▶I button repeatedly until the desired track number is shown.
- When you press the ▶II button, playback starts from the beginning of the track.

■ Random play or repeat play



1 During playback, press the MENU/ENTER button.

2 Press the ⏮ or ⏭ button repeatedly to select "PLAY MODE".

PLAY MODE

3 Press the MENU/ENTER button.

4 Press the ⏮ or ⏭ button repeatedly to select the desired playback mode.

RANDOM : Random play
RANDOM REP : Repeat play of tracks in random order
ALL REPEAT : Repeat play of all of the tracks
1Tr REPEAT : Repeat play of a single track
NORMAL : Normal playback

5 Press the MENU/ENTER button.

The mode will be set automatically after 7 seconds even if the MENU/ENTER button is not pressed.

Notes:

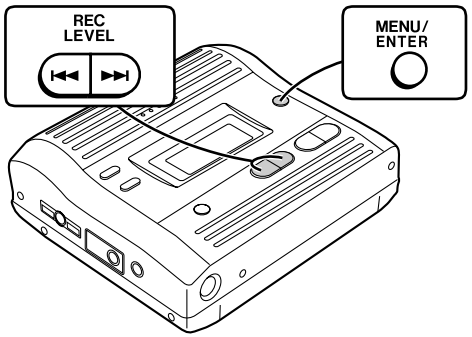
- Complete the operation within 7 seconds whilst selecting the menus.
- If the playback mode is selected whilst stopped, press the ⏯ button to start playback.
- When "TOC" is displayed, random play or repeat play is impossible.
- In random play, the unit will select and play tracks automatically. (You cannot select the order of the tracks.) After all of the tracks are played once in random order, the unit will stop automatically.
- During random, random repeat, or single track repeat play, you can forward or reverse the MiniDisc only within the track being played.
- During random play, the unit cannot find the beginning of any track which has been played.
- Repeat play lasts until you stop the unit.

Advanced Recording

■ Long-play recording

2 times and 4 times long recording
Double or quadruple time of stereo recording is possible.

Monaural recording
In monaural, you can record twice as long as the stereo recording.

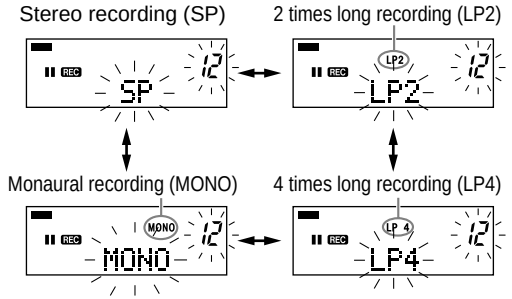


1 When recording is paused, press the MENU/ENTER button.

2 Press the ⏮ or ⏭ button repeatedly to select "REC MODE".

3 Press the MENU/ENTER button.

4 Press the ⏮ or ⏭ button repeatedly to select the desired recording mode.



5 Press the MENU/ENTER button.
The mode will be set automatically after 7 seconds even if the MENU/ENTER button is not pressed.

6 Start recording.

Notes:
- Complete the operation within 7 seconds whilst selecting the menus.
- The recording mode remains unchanged until a new mode is selected.

Notes:

- In monaural recording, the sound on the right and left channels is mixed even if the input source is in stereo. Although you can hear the stereo sound from the earphones, the recorded sound is monaural.
- **Tracks recorded in 2 times long recording and 4 times long recording modes cannot be played with the unit that does not support these modes. On such a unit, no sound is heard. (The operation may vary depending on the unit.)**
- Tracks recorded in monaural cannot be played on equipment that does not support monaural playback.

■ About ATRAC

The ATRAC (Adaptive TRansform Acoustic Coding) system compresses the sound data into 1/5 by cutting out the inaudible sound. Since the sound is selected based on psychoacoustics masking, the sound quality is not impaired. This unit is equipped with the ATRAC3 compressing system that can reduce the sound data to 1/10 or 1/20 of its original size. By employing this system, 2 times and 4 times long recordings are enabled in stereo mode.

■ About the recording mode

You can select the recording mode from stereo recording, 2 times long recording, 4 times long recording, and monaural recording. Recordable time varies depending on the recording mode. If the tracks are recorded on an 80-minute MiniDisc, its recording time changes as follows:

Indication	Recording mode	Recording time
SP	Stereo	MAX. 80 min.
LP2	2 times long (stereo)	MAX. 160 min.
LP4	4 times long (stereo)	MAX. 320 min.
MONO	Monaural	MAX. 160 min.

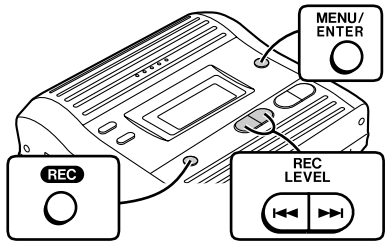
■ Caution for 4 times long recording (LP4)

Special compression methods are used to achieve 4 times long recording. This may cause some noise to be recorded occasionally. When the highest quality is required, stereo or LP2 recording is recommended.

Advanced Recording (continued)

■ Playback sound-actuated recording

Recording automatically starts or pauses by detecting sound from the stereo system (synchronised recording).



1 Press the REC button.

2 Begin playback on the stereo system connected to this portable MD.

3 Press the I◄◄ or ►►I button to adjust the recording level (see page 16).

4 Press the PAUSE button on the stereo system to enter the playback pause mode.
Select the starting point for your recording and press the PAUSE button.

5 Press the MENU/ENTER button.

6 Press the I◄◄ or ►►I button repeatedly to select "REC MODE".

7 Press the MENU/ENTER button.

8 Select the recording mode (step 4, page 22) and press the MENU/ENTER button.

9 Press the MENU/ENTER button.

10 Press the I◄◄ or ►►I button repeatedly to select "SYNC ON".

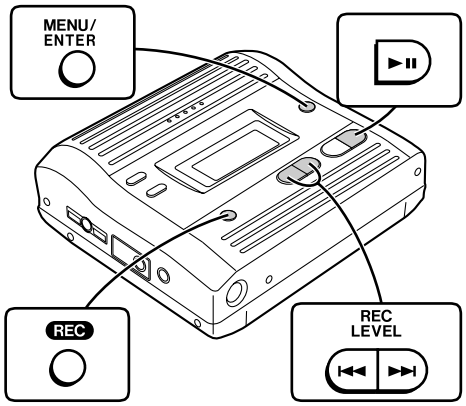
11 Press the MENU/ENTER button.
- "SYNC" will flash.
- To cancel the operation, press the ■:OFF/HOLD button.
- The mode will be set automatically after 7 seconds even if the MENU/ENTER button is not pressed.

12 Begin playback on the stereo system.
Recording will begin automatically.

To interrupt recording
- When the stereo system is stopped, the unit will enter the synchro recording pause mode. When playback is resumed, recording will also resume.
- If a silence lasts for 3 seconds or more, recording will be paused (pause function does not work for approximately 10 seconds after recording starts). When the unit receives sound again, recording automatically starts.
- A new track number is created when recording resumes.

■ To start recording from the middle of a track

You can erase a portion of a track and make a new recording.
All of the tracks that follow the newly recorded track will be erased.



1 During playback, press the ►II button at the point where you want to begin recording.

2 Press the REC button.

ERASE OK?

To cancel the operation, press the ■:OFF/HOLD button.

3 Press the MENU/ENTER button.
All of the tracks and track names will be erased, following the point where the playback is paused.

4 Press the MENU/ENTER button again.

5 Press the I◄◄ or ►►I button repeatedly to select "REC MODE".

6 Press the MENU/ENTER button.

7 Press the I◄◄ or ►►I button repeatedly to select the recording mode (step 4, page 22).

8 Press the ►II button.
Recording will start.

Notes:
- Complete the operation within 7 seconds whilst selecting the menus.
- To keep a track after the point you want to make a new recording, move the track and then make recording after that point. (See "Editing a Recorded MiniDisc", page 40.)

Advanced Recording (continued)

■ To create your own track numbers

You can create your own track numbers at any point.

Whilst recording, press the REC button at the point where you want to create track numbers.
The track number will be increased by one.

- One track number will be added every time the REC button is pressed.
- The BASS button on the remote control can also be used to add track numbers.

Numbering restriction
If you try to number more than 10 tracks in certain amount of time, "SORRY" will be displayed and the operation will be disabled.
In that case, wait until the next operation can be resumed.

In stereo recording	Within 40 seconds
In 2 times long recording	Within 80 seconds
In 4 times long recording	Within 160 seconds
In monaural recording	Within 80 seconds

■ Recording tracks as a single track

You can record several pieces of music as a single track by disabling the auto marker function.

When recording is paused or whilst recording...

1 Press the MENU/ENTER button.
2 Press the ⏮ or ⏭ button repeatedly to select "MARK".
3 Press the MENU/ENTER button.
4 Press the ⏮ or ⏭ button to select "MARK OFF".

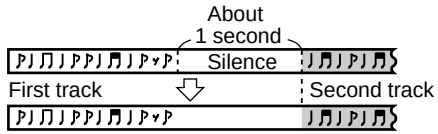
5 Press the MENU/ENTER button.

Notes:

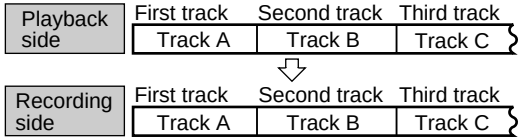
- Complete the operation within 7 seconds whilst selecting the menus.
- When making digital recordings using a CD player or an MiniDisc player, track numbers will be created automatically regardless of the setting of the auto marker function.

■ About track numbers

1. Track numbers are created automatically during recording via the analogue connection when a silence of 1 second or more is detected (auto marker function). A series of tracks can be recorded as one by disabling the auto marker function (see page 26).



2. When recording from a CD or a MiniDisc using the digital connection, track numbers will be created at the same points as on the CD or MiniDisc (synchro marker function).



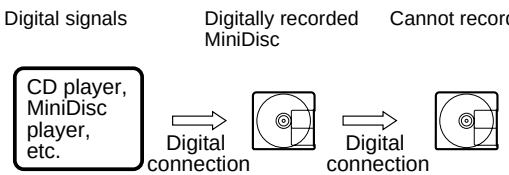
- Track numbers may not be created in proper places, depending on the source to be recorded from, such as signals with noise.
- The track numbers on the playback side may not match the track numbers recorded on the MiniDisc.
- When recording, if a programmed playback is performed by the source or playback is performed by selecting tracks manually, the MiniDisc track numbers may not be the same as on the source.
- Track numbers may not be created properly, depending on the connected stereo system.

■ About sampling rate converter

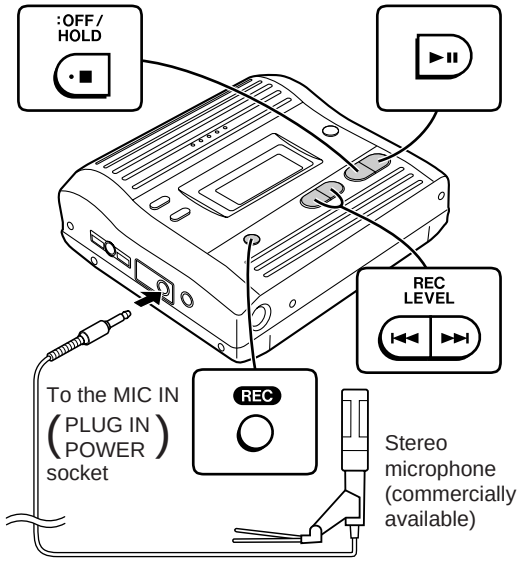
This portable MD incorporates a sampling rate converter so that it can record from digital radios or DAT tape recorders.

■ Note for digital recording

You cannot copy a MiniDisc that you recorded from digital inputs to another MiniDisc or DAT. It is prevented by the SCMS (Serial Copy Management System). Recording from analogue inputs is not affected.



Recording from a Microphone



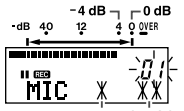
1 **Connect a stereo microphone to the MIC IN socket.**

2 **Insert a recordable MiniDisc (page 11).**

3 **Press the REC button.**

4 **Press the REC LEVEL ⏮ or ⏭ button to adjust the recording level.**

Adjust the recording level so that the maximum sound volume from the source makes the reading swing somewhere between -4 dB and 0 dB.



L: 0 - 20
H: 21 - 30

5 **Select the recording mode (steps 5 - 9, page 17).**

6 **Press the ⏯ button.**

Recording will start.

To interrupt recording
Press the ⏯ button whilst recording.
To resume recording, press the ⏯ button.
The track number will be increased by one each time you interrupt recording.

To stop recording
Press the ■:OFF/HOLD button.

To write recorded contents on the MiniDisc
Press the ■:OFF/HOLD button whilst in the stop mode.

■ Sound-actuated recording (Mic Synchronised recording)

1 Press the REC button.

2 Press the REC LEVEL ⏮ or ⏭ button to adjust the recording level.

3 Select the recording mode (steps 5 - 9, page 17).

4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button repeatedly to select "SYNC ON".

6 Press the MENU/ENTER button.

7 Press the ⏮ or ⏭ button to select the recording start level.

MIC SYNC H : Recording starts when the unit detects - 24 dB or more (the unit can start recording from quiet sounds).

MIC SYNC L : Recording starts when the unit detects - 12 dB or more.

8 Press the MENU/ENTER button.

9 When a sound, such as person speaking, is picked up by the microphone, recording will begin automatically.

About pause function

The unit automatically pauses when the microphone does not pick up any sound for 3 seconds or more. (Pause function does not work for approximately 10 seconds after a recording starts.) When the microphone picks up sound again, recording starts automatically.

Notes:

- Whilst making a mic recording, do not connect anything to the OPTICAL/LINE IN socket on the portable MD.
- **To use a microphone, be sure it is a plug-in-power type microphone.**
  - When a plug-in-power type microphone is plugged in, the portable MD will provide power for the microphone's operation.
  - If a different type of microphone is plugged in, it may not operate properly or it may cause the unit to malfunction.
- Insert the plug firmly. If you don't, the recording will not be made properly.
- Use a microphone with a 3.5 mm (1/8") diameter stereo mini plug.
- If the unit starts recording too often from low unwanted noises, set the microphone input to "MIC SYNC L".
- Recording sensitivity can be changed whilst recording.

Recording from a Microphone (continued)

■ Track intervals

When recording from the microphone, track numbers will be created automatically at regular intervals (default setting: approximately every 5 minutes). During a mic synchro recording, the unit pauses when a silence lasts for 3 seconds or more, and creates a track number.

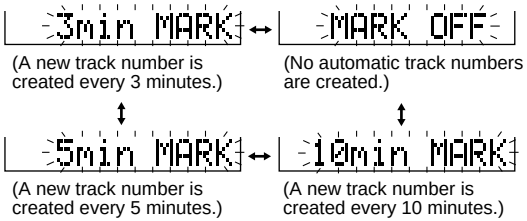
Changing intervals between tracks

1 Press the MENU/ENTER button.

2 Press the ⏮ or ⏭ button repeatedly to select "MARK".

3 Press the MENU/ENTER button.

4 Press the ⏮ or ⏭ button.


3min MARK
MARK OFF
(A new track number is created every 3 minutes.)
(No automatic track numbers are created.)
5min MARK
10min MARK
(A new track number is created every 5 minutes.)
(A new track number is created every 10 minutes.)

The interval between marks may vary slightly compared with the actual recording time.

5 Press the MENU/ENTER button.

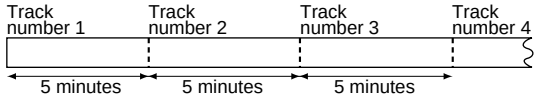
The mode will be set automatically after 7 seconds even if the MENU/ENTER button is not pressed.

6 Track numbers will be created automatically at regular intervals.

Example: Set to "5 minutes".

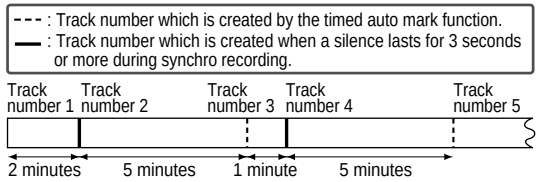
During a mic manual recording

Timed auto marks will be created every 5 minutes.



During a mic synchro recording

If a silence lasts for 3 seconds or more, a timed auto mark will be created 5 minutes after the previous mark is created.


: Track number which is created by the timed auto mark function.
: Track number which is created when a silence lasts for 3 seconds or more during synchro recording.
Track number 1
Track number 2
Track number 3
Track number 4
Track number 5
2 minutes
5 minutes
1 minute
5 minutes

Creating track numbers manually

- Press the REC button whilst recording.
- The BASS button on the remote control can also be used to add track numbers.

Changing Default Settings

Whilst in the stop mode ...

1 With a MiniDisc inserted, press the MENU/ENTER button for 2 seconds or more. "SET UP" will appear.
When you release the button, "BEEP" will flash.

2 Press the ⏮ or ⏭ button to select the menu.

3 Press the MENU/ENTER button to display the setting item.

4 Press the ⏮ or ⏭ button to select the setting items.

5 Press the MENU/ENTER button.

MENU	SETTING ITEM	
BEEP (Confirmation sound)	BEEP ON*	Beep
	BEEP OFF	Silent
AUTO PLAY (Auto play)	A-PLAY ON*	Set.
	A-PLAY OFF	Cancelled.
POWER SAVE (Auto power save)	AUTO Psave*	Set.
	Psave OFF	Cancelled.
D-LEVEL (Digital recording level)	D.L MODE 1*	Setting retained.
	D.L MODE 2	Cancelled.

(*) indicates default setting.

■ Beep sound

You can eliminate the confirmation sound that beeps when you press a button.

■ Auto play

You can make the unit not play automatically when you insert a playback-only MiniDisc or an accidental erasure protected MiniDisc.

■ Auto power save

When the unit is used in a place exposed to much vibration, sound skipping can be decreased by cancelling the auto power save function. (Battery will drain faster.)

What is auto power save function?

During playback, maximum 40 seconds (in stereo) of musical information is stored. Auto power save function automatically adjusts the storage time between 5 and 40 seconds to reduce the power consumption. If this function is cancelled, the storage time cannot be adjusted.

- If this unit is used with the AC adaptor, the storage time will be 40 seconds regardless of the settings.
- The storage time varies depending on the recording mode.

■ Digital recording level

"D.L MODE 1"
The digital recording level you set will be kept even after cancelling recording.
"D.L MODE 2"
Every time you cancel recording, the level will return to [D.L 0dB].

Checking Displays

■ To check the elapsed time and remaining time of the track

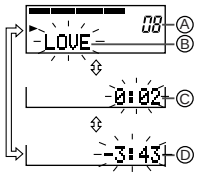
1 During playback, press the MENU/ENTER button.

2 Press the ⏮ or ⏭ button repeatedly to select "DISPLAY".

3 Press the MENU/ENTER button.

4 Press the ⏮ or ⏭ button.

Each time the ⏮ or ⏭ button is pressed, the display will change as follows.
Ⓐ Track number
Ⓑ Track name
Ⓒ Elapsed playback time
Ⓓ Remaining playback time



Notes:
- Complete the operation within 7 seconds whilst selecting the menus.
- If the disc name or the track name was not originally recorded on the MiniDisc, "NO NAME" will be displayed.
- Elapsed playback time and remaining playback time may be different from the actual time.
- The selected display will not change even after the disc is replaced.

■ To check the remaining recording time and the total playing time

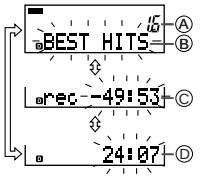
1 Whilst in the stop mode, press the MENU/ENTER button.

2 Press the ⏮ or ⏭ button repeatedly to select "DISPLAY".

3 Press the MENU/ENTER button.

4 Press the ⏮ or ⏭ button.

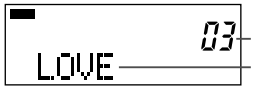
Each time the ⏮ or ⏭ button is pressed, the display will change as follows.
Ⓐ Total number of tracks
Ⓑ Disc name
Ⓒ Remaining recording time
Ⓓ Total playing time



- Remaining recording time varies depending on the set recording mode.
- Remaining recording time will not be displayed with a playback only MiniDisc.

■ To display the playing time of an individual track

1 Whilst in the stop mode, press the ⏮ or ⏭ button to display the track number and track name.



2 Press the MENU/ENTER button.

3 Press the ⏮ or ⏭ button repeatedly to select "DISPLAY".

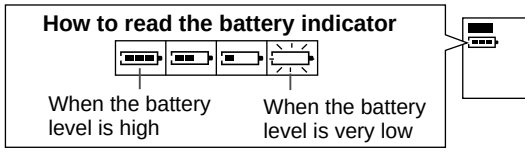
4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button to select the playing time.

6 Press the MENU/ENTER button.

■ Checking the remaining amount of battery level

The remaining amount of battery level is shown by the battery indicator (▭) during operation.



- When the battery level is very low, the battery indicator will flash. Replace the alkaline battery with a new one.
- When the battery has run out completely, "BATT EMPTY" will appear. Then, the power will be disconnected automatically.

Notes:

- The battery indicator will not correctly display the remaining capacity for approximately 10 seconds after the power has been turned on.
- When the AC adaptor or a separately available car adaptor is used, the battery indicator will not be shown.
- The number of bars shown in the battery indicator may increase or decrease, depending on the operation being performed. This is normal.

Titling a MiniDisc

■ Creating disc and track names

Load a MiniDisc to be named. A playback only or recording prevented MiniDisc cannot be edited.

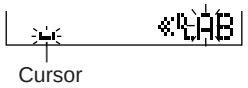
1 <Disc name> **Whilst in the stop mode, press the MENU/ENTER button.** <Track name> **Whilst in the pause mode, press the MENU/ENTER button.**

2 Press the ⏮ or ⏭ button repeatedly to select "EDIT".

3 Press the MENU/ENTER button.

4 <Disc name> **Press the ⏮ or ⏭ button repeatedly to select "DISC NAME".** <Track name> **Press the ⏮ or ⏭ button repeatedly to select "TRACK NAME".**

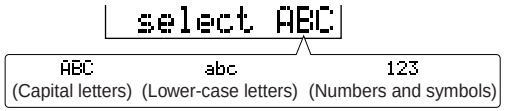
5 Press the MENU/ENTER button.



Cursor

- The unit will enter the character input mode.
- To cancel the operation, press the ■:OFF/HOLD button.

6 Press the ⏯ button repeatedly to select the type of characters.



The first 3 characters in the group of the selected characters will be displayed for about 1 second.

7 Press the ⏮ or ⏭ button repeatedly to select the letter.

8 Press the MENU/ENTER button to enter it.

Position where the next letter will be entered

Note:
Complete the operation within 7 seconds whilst selecting the menus.

9 To enter more letters, repeat steps 6 - 8.

10 When the name is completely entered, press and hold down the MENU/ENTER button for 2 seconds or more.

- "TOC" will be displayed. To write the updated contents to the MiniDisc, press the ■:OFF/HOLD button.
- You cannot remove the MiniDisc whilst "TOC" is displayed. "TOC" will not disappear until the recorded contents have been updated.

■ Characters (symbols)

Capital letters
DL A B C D E F G H I J K L M N O P Q R
S T U V W X Y Z . , / ␣
Lower-case letters
DL a b c d e f g h i j k l m n o p q r
s t u v w x y z . , / ␣
Numbers and symbols
DL 1 2 3 4 5 6 7 8 9 0 ! " # $ % & ' (
) * + , − . / : ; < = > ? @ _ ` ␣

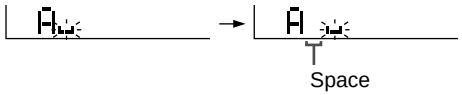
DL (Delete) : erases a character.
␣ (Space) : indicates a space.

■ To erase a character

Press the VOL + or VOL - button to move the cursor to the character you want to erase, and then press the BASS button on the remote control.
You can also erase a character by selecting "DL" and pressing the MENU/ENTER button.

■ To enter a space

Press the VOL+ button to move the cursor to the right.



Notes:

- One disc name and up to 255 track names can be created per disc (a maximum of 100 characters for the disc and each track name and a total of about 1,700 characters can be entered).
- If you enter "LP:" at the beginning of a name, "LP:" may not be displayed.

Titling a MiniDisc (continued)

■ To add characters

1 Put the unit in the character input mode.
(Perform steps 1 - 5 on page 34.)

2 Press the VOL + or VOL - button to move the cursor to the character before which you want to add a new character.

3 Select the character to add.
(Perform steps 6 - 8 on page 34.)

4 Press and hold down the MENU/ENTER button for 2 seconds or more.

- "TOC" will be displayed. To write the updated contents to the MiniDisc, press the ■:OFF/HOLD button.
- You cannot remove the MiniDisc whilst "TOC" is displayed. "TOC" will not disappear until the recorded contents have been updated.

■ Stamping titles from another MiniDisc

Before stamping
When there are 2 MiniDiscs on which the same tracks are recorded, you can transfer the character information (disc and track names) of the master MiniDisc to another MiniDisc (for stamping).

1. What is a master MiniDisc?

A recordable MiniDisc that contains tracks and character information. (You cannot transfer the information from a playback-only MiniDisc.)

2. What is a MiniDisc for stamping?

A MiniDisc that contains the same tracks in the same order as the master MiniDisc. (Make sure that the total number of tracks of the master MiniDisc and the one for stamping are the same.)

Master MiniDisc operation

1 Insert a master MiniDisc.
Do not mistake the master MiniDisc for the target one.

2 Whilst in the stop mode, press the MENU/ENTER button.

3 Press the ⏮ or ⏭ button repeatedly to select "EDIT".

4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button repeatedly to select "NAME STAMP".

6 Press the MENU/ENTER button.

To cancel the operation, press the ■:OFF/HOLD button.

7 Press the MENU/ENTER button.

8 When the unit displays "CHANGE MD", remove the master MiniDisc.
Remove it without turning off the power. Or, the operation will be cancelled.

Operation of the MiniDisc for stamping

9 Load a MiniDisc for stamping.

10 Press the MENU/ENTER button.

The unit will finish recording the character information and enter the stop mode.

Note:
If the total number of tracks on the master MiniDisc does not match that on the MiniDisc for stamping, the unit will display "Can'tSTAMP" and turn off.

If this happens, adjust the total number of tracks on the newly recorded MiniDisc using the edit operation.

Editing a Recorded MiniDisc

■ To erase one track at a time

1 **Start playing the track to be erased, and press the ▶II button.**

2 **Press the MENU/ENTER button.**

3 **Press the ⏮ or ⏭ button repeatedly to select "EDIT".**

4 **Press the MENU/ENTER button.**

5 **Press the ⏮ or ⏭ button repeatedly to select "ERASE".**

6 **Press the MENU/ENTER button.**

To cancel the operation, press the ■:OFF/HOLD button.

7 **Press the MENU/ENTER button again.**

The track will be erased.

8 **To erase other tracks, repeat steps 1 - 7.**

Note:
Complete the operation within 7 seconds whilst selecting the menus.

■ To erase all of the tracks at once

1 **Whilst in the stop mode, press the MENU/ENTER button.**

2 **Press the ⏮ or ⏭ button repeatedly to select "EDIT".**

3 **Press the MENU/ENTER button.**

4 **Press the ⏮ or ⏭ button repeatedly to select "ALL ERASE".**

5 **Press the MENU/ENTER button.**

To cancel the operation, press the ■:OFF/HOLD button.

6 **Press the MENU/ENTER button again.**

All of the tracks will be erased.

Caution:
Once a track has been erased, it cannot be recovered. Check the track number before erasing it.

■ To divide a track

1 Start playing the track to be divided into two. Press the ▶II button at the point where you want to divide the track.

2 Press the MENU/ENTER button.

3 Press the ⏮ or ⏭ button repeatedly to select "EDIT".

4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button repeatedly to select "DIVIDE".

6 Press the MENU/ENTER button.

To cancel the operation, press the ■:OFF/HOLD button.

7 Press the MENU/ENTER button again.

The track will be divided into two tracks, and the unit will be paused at the beginning of the second of the two new tracks.

■ To combine tracks

1 Start playing the latter of the two tracks to be combined, and press the ▶II button.

2 Press the MENU/ENTER button.

3 Press the ⏮ or ⏭ button repeatedly to select "EDIT".

4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button repeatedly to select "COMBINE".

6 Press the MENU/ENTER button.

To cancel the operation, press the ■:OFF/HOLD button.

7 Press the MENU/ENTER button again.

The two tracks will be combined, and the unit will be paused at the beginning of the combined track.

Editing a Recorded MiniDisc (continued)

■ To move a track

1 Play the track to be moved, and press the ▶II button.

2 Press the MENU/ENTER button.

3 Press the ⏮ or ⏭ button repeatedly to select "EDIT".

4 Press the MENU/ENTER button.

5 Press the ⏮ or ⏭ button repeatedly to select "MOVE".

6 Press the MENU/ENTER button.

To cancel the operation, press the ■:OFF/HOLD button.

7 Press the ⏮ or ⏭ button to select the direction.

8 Press the MENU/ENTER button again.

The track will be moved, and the unit will be paused at the beginning of the track.

When a track has a name before dividing:
The two new tracks will have the same name. However, in the "TOC FULL" condition, the second track may not be named.

Total number of tracks that can be divided:
Each disc can hold up to 255 tracks. However, even if the number of assigned tracks has not reached 255, it might not be possible to make any further divisions of tracks.

To combine two non-adjacent tracks:
First, put the two tracks next to each other in the order you want using the MOVE function. Then combine them using the COMBINE function.

When one or both tracks to be combined have a name:
The first track name will be used. However, when the first track does not have a name, the second track name will be used.

In the following cases, tracks may not be combined.

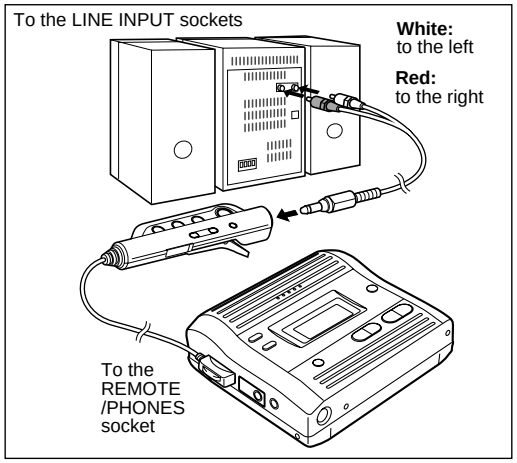
- Tracks recorded by different input modes/sources cannot be combined.

Examples:

- Digital recorded track and analogue recorded track.
- Different recording modes (stereo recording, 2 times long recording, 4 times long recording, monaural recording).
- Tracks whose recording time is less than 12 seconds.

Listening through Another System

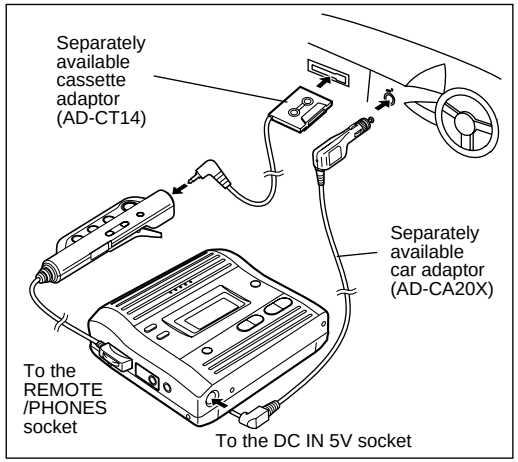
■ Listening through a stereo system



Notes:

- It is recommended that the volume level of the MiniDisc unit be set to maximum when listening through a stereo system.
- When recording with a stereo system, eliminate the confirmation sound (page 31). Otherwise, it will also be recorded.
- The recording will be made in the analogue mode.
- Character information will not be recorded.

■ Listening through a car stereo

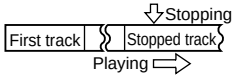


Notes:

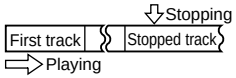
- Adjust the volume of both this portable MD and a car stereo.
- Do not operate this portable MD whilst you drive a car. It may distract your attention and cause a traffic accident.
- Do not use any car adaptor except for the separately available AD-CA20X.
- Remove the battery when you power the unit from the car battery.

■ Resuming auto play

When you stop and then restart playback without removing the disc, playback will resume from the point at which the disc was stopped.

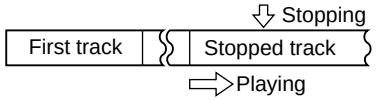


Once you remove the MiniDisc, playback starts from the first track.



The unit provides the following functions when you use it with the separately available car adaptor (AD-CA20X) (when the battery is removed):

1. When you turn off the engine, the power of this portable MD also turns off. (It may not work with some types of cars.)
2. When you restart the engine, playback starts from the beginning of the stopped track.



Maintenance

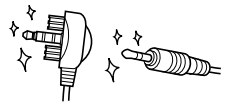
■ Cleaning

When the unit becomes dirty

Clean it with a soft cloth. When the unit is excessively dirty, use a soft cloth dampened in water (external surfaces only).

Clean the plugs and the connecting sockets.

If the plugs or sockets are dirty, noise may be heard. Cleaning will prevent noise.



Caution:

- Do not use chemicals for cleaning (petrol, paint thinner, etc.). It may damage the cabinet finish.
- Do not apply oil to the inside of the unit. It may cause malfunctions.

MiniDisc System Limitations

The unit may have the following symptoms whilst recording or editing. The unit is not out of order.

SYMPTOM	LIMITATIONS
"DISC FULL" or "TOC FULL" appears even though the MiniDisc still has recording time left.	More than 255 tracks (maximum) cannot be recorded regardless of the recording time. If the MiniDisc is recorded or edited repeatedly or if it has scratches (recording skips scratched parts), you may not be able to record the maximum tracks above.
The remaining recording time does not increase even though you erased tracks.	The unit does not count non-recorded portions that last 12 or fewer seconds to display the remaining recording time. The time may not increase even if you erase short tracks.
The total of the recorded time and the remaining time does not match the maximum recordable time.	One cluster (approximately 2 seconds) is the minimum unit for recording. For example, a 3-second track uses 2 clusters (approximately 4 seconds). Therefore, the actual recordable time may be shorter than the displayed time.
Combine function does not work.	A MiniDisc on which recording and editing are repeated may not allow the combine function.
Sound skips in fast reverse/forward.	If one track is divided and recorded in separate places on a repeatedly recorded or edited MiniDisc, sound may skip.
A track number is created in the middle of a track.	A track number may be created if there are scratches or dust on the MiniDisc.

Error Messages

ERROR MESSAGES	MEANING
BATT EMPTY	● The battery has run down.
BLANK MD	● Nothing is recorded. (Replace the disc with a recorded disc.)
Can't COPY	● You tried to record from a copy prohibited MiniDisc. (Record using the analogue cable.) ● You tried to record signals other than music (such as data).
Can't EDIT	● A track cannot be edited. (Change the stop position of the track and then edit it.)
Can't LOCK	● You tried to record or edit the MD whilst operating the OPEN lever.
Can't PLAY	● You tried to play back a track that cannot be played with this equipment.
Can't READ (*)	● The disc data cannot be read because the disc is damaged. (Reload the Minidisc or replace it with another one.)
Can't REC	● Recording cannot be performed correctly due to vibration or shock.

ERROR MESSAGES	MEANING
Can'tSTAMP	● Stamp function does not work. (Check the number of tracks.)
Can'tWRITE	● Cannot save the TOC information correctly to a MiniDisc.
DEFECT!	● The disc is scratched. (If the recorded sound is not right, retry recording or replace the disc with a recordable one.)
DISC FULL	● The disc is out of recording space.
Er-MD (**)	● The microprocessor has reported a system fault and the unit is out of order. (To have it repaired, go to the distributor where you purchased the unit.)
HOLD	● The unit is in the hold mode.
LOCKED	● You removed a MiniDisc whilst recording or editing. (Turn off the power before removing the MiniDisc.)
NO DISC	● A disc has not been loaded.

A number or symbol appears in (*) position.

ERROR MESSAGES	MEANING
NO SIGNAL	● Poor connection of the digital cable. ● No output signal comes out from the connected unit. (Use the AC power for the connected unit.) ● The input signal has improper sampling frequency.
PLAY MD	● You tried to record on a playback-only disc.
POWER?	● AC adaptor other than specified.
PROTECTED	● The write protection tab of a MiniDisc is set to the protected position.
SORRY	● Since a track number is currently being located or updated, the unit cannot accept your command. (Wait a while and try the operation again.)

ERROR MESSAGES	MEANING
TEMP OVER	● The temperature is too high. (Turn off the power, and wait a while.)
TOC FORM (**)	● There is an error in the recording signal. (Erase all of the tracks, and then record again.)
TOC FULL	● There is no space left for recording character information (track names, disc names, etc.).
Tr. Protect	● The track has been protected from being erased. (Edit the track with the device on which it was recorded.)
? DISC	● A disc which contains data other than music was played. (A disc which contains nonmusic data cannot be played.) ● There is an error in the signal recorded on the disc.

A number or symbol appears in (*) position.

Troubleshooting

Many potential "problems" can be resolved by the owner without calling a service technician. If something seems to be wrong with this product, check the following before calling your authorised SHARP dealer or service centre.

The unit does not turn on.

- Is the AC adaptor disconnected?
- Is the battery exhausted?
- Is the unit in the hold mode?
- Has condensation formed inside the unit?
- Is the unit being influenced by mechanical shock or by static electricity?

No sound is heard from the earphones.

- Is the volume set too low?
- Are the earphones plugged in?
- Are you trying to play a MiniDisc with data on it instead of a MiniDisc containing music?

When the operation buttons are pressed, the unit does not respond.

- Is the unit in the hold mode?
- Is the battery exhausted?
- Is the earphones plug inserted firmly?

Some sounds are skipped.

- Is the battery exhausted?
- Is the unit being subjected to excessive vibration?

The MiniDisc cannot be ejected.

- Has the track number or character information been written on the disc yet?
- Is the unit in the recording or editing mode?

Recording and editing are impossible.

- Is the MiniDisc protected against accidental erasure?
- Is the unit connected properly to the other equipment?
- Is the AC adaptor unplugged or did a power failure occur whilst recording or editing?
- Is the unit in the hold mode?
- Is an optical signal being output from the stereo system? Read the operation manual for the stereo system.

■ If trouble occurs

When this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction.

If such a problem occurs, do the following:

1. Unplug the AC adaptor from the wall socket.
2. Remove the battery.
3. Leave the unit completely unpowered for approximately 30 seconds.
4. Plug the AC adaptor back into the wall socket and re-operate the unit.

■ Moisture condensation

When the unit has condensation inside, the disc signals cannot be read, and the unit may not function properly.

In the following cases, condensation may form inside the unit.

- Shortly after turning on a heater.
- When the unit is placed in a room where there is excessive steam or moisture.
- When the unit is moved from a cool place to a warm place.

To remove condensation:

Remove the MiniDisc and leave the unit for approximately 1 hour. The condensation should evaporate and the unit will work properly.

Specifications

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

Power source:	DC 5 V:	AC adaptor (AC 230 V, 50/60 Hz)
	DC 1.5 V:	Commercially available, "AA" size (LR6), alkaline battery x 1
	DC 4.5 V:	Optional car adaptor, AD-CA20X (for cars with a 12 - 24 V DC negative earth electrical system)
Power consumption:	7 W (AC adaptor)	
Output power:	RMS: 20 mW (10 mW + 10 mW) (0.2 % T.H.D.)	
Dimensions:	Width: 83 mm (3-9/32")	Height: 28 mm (1-1/8") Depth: 77 mm (3-1/32")
Weight:	109 g (0.24 lbs.) without battery	
Input socket:	Line/optical digital, microphone (powered by the main unit)	
Output socket:	Earphones (impedance: 32 ohms)/remote control unit	
Type:	Portable MiniDisc recorder	
Signal readout:	Non-contact, 3-beam semiconductor laser pickup	
Audio channels:	Stereo 2 channels/monaural 1 channel	
Frequency response:	20 - 20,000 Hz (±3 dB)	
Rotation speed:	Approx. 400 - 1,800 rpm CLV	
Error correction:	ACIRC (Advanced Cross Interleave Reed-Solomon Code)	
Coding:	ATRAC/ATRAC3 (Adaptive TRansform Acoustic Coding), 24-bit computed type	
Recording method:	Magnetic modulation overwrite method	
Sampling frequency:	44.1 kHz (32 kHz and 48 kHz signals are converted to 44.1 kHz, and then recorded.)	
Wow and flutter:	Unmeasurable (less than ±0.001 % W. peak)	

Battery life:

	Stereo		2 times long		4 times long	
When using a commercially available, high capacity, "AA" size (LR6), alkaline battery	Continuous recording: Approx. 8 hours	Continuous play: Approx. 33 hours	Continuous recording: Approx. 11 hours	Continuous play: Approx. 44 hours	Continuous recording: Approx. 16 hours	Continuous play: Approx. 52 hours

Input sensitivity:

	Reference input level	Input impedance
MIC H	0.25 mV	10 k ohms
MIC L	2.5 mV	10 k ohms
LINE	100 mV	20 k ohms

Output level:

	Specified output	Maximum output level	Load impedance
Ear-phones	-	10 mW + 10 mW	32 ohms
LINE	250 mV (-12 dB)	-	10 k ohms

- The continuous recording time is for analogue inputs when the volume level is set to "VOL 0".
- The continuous play time shows the value when the volume level is set to "VOL 15".
- The above values are the standard values when the unit is used at an ambient temperature of 25°C (77°F).
- The operating time when using an alkaline battery may be different, depending on the type and manufacturer of the battery, and on the operating temperature.

MEMO

MEMO

TERMS OF GUARANTEE

Subject to the terms listed below, Sharp Electronics (U.K.) Ltd. (hereinafter called “the Company”) guarantee to provide for the repair of, or at its option replace this Sharp Equipment, or any component thereof, (other than batteries), which is faulty or below standard, as a result of inferior workmanship or materials.

The conditions of this guarantee are:

1. The guarantee shall only apply to defects which occur within one year from the date of purchase, provided that this equipment is sent to the repair address within this period.
2. This guarantee covers equipment intended for private domestic use only. This guarantee does not apply to equipment used in the course of a business, trade or profession.
3. The guarantee does not cover MiniDiscs or batteries.
4. This guarantee does not cover any faults or defects caused by accident, misuse, fair wear and tear, neglect, tampering with the equipment, or any attempt at adjustment or repair other than by a Service Facility appointed by Sharp.
5. In the unlikely event of a defect occuring, the product must be returned to the Company’s repair centre with proof of purchase. A postage paid label and a fault report form are supplied with the product for this purpose. It is your responsibility to ensure that the packaging is adequate, and to obtain proof of posting. Further details of the repair service, which is available after the guarantee period on a chargeable basis, and additional report forms and labels can be obtained by telephoning 0870 738 0000.
6. No person has any authority to vary the terms or conditions of this guarantee.
7. This guarantee is offered as an additional benefit to the consumer’s statutory rights and does not affect these rights in any way.

SHARP

SHARP ELECTRONICS (U.K.) LTD.
Sharp House, Thorp Road, Newton Heath, Manchester, M40 5BE

SHARP CORPORATION

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03A R AO ①